

10 Targeting Food Security Interventions in Ethiopia: The Productive Safety Net Programme

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In Ethiopia, as in many other African countries, there is a pressing need to improve household food security. An emerging consensus suggests that this is most easily accomplished through two development strategies with two complementary dimensions: investments that facilitate income generation and asset accumulation, discussed elsewhere in this book, and interventions that protect the poorest from hunger, prevent asset depletion, and provide a platform for the growth interventions. Because resources for such interventions are limited, there needs to be a mechanism for allocating these.

In this chapter we consider this issue in the context of Ethiopia's Productive Safety Net Programme (PSNP), a federal government program implemented almost entirely through government systems with harmonized donor support. Before 2005, the Government of Ethiopia (GoE) launched emergency appeals for food aid and other forms of emergency assistance almost annually. Although these succeeded in averting mass starvation, they did not banish the threat of further famine and did not prevent asset depletion by marginally poor households affected by adverse rainfall shocks. In response, the GoE and a consortium of donors implemented a new response to chronic food insecurity in rural Ethiopia. Rather than mounting annual appeals for assistance and ad hoc distributions, they established the PSNP.

The PSNP "provides transfers to the food insecure population in chronically food insecure *woredas* in a way that prevents asset depletion at the household level and creates assets at the community level" (FDRE 2004, 2). Unlike the annual emergency appeals, it was conceived as a multiyear program to provide recipients with predictable and reliable transfers. Most beneficiaries undertake public works. From 2005 to 2007, these paid beneficiaries either Ethiopian birr (ETB) 6 per day (increased to ETB 8 in 2008 and ETB 10 in 2010) in cash or three kilograms of cereals for work (depending on where they lived) on labor-intensive projects building community assets. A smaller number of beneficiaries received unconditional transfers called direct support. Initially, the PSNP was complemented by a series of food security activities called the Other Food Security Programme (OFSP). The OFSP included access to credit;

assistance in obtaining livestock, small stock or bees, tools, and seeds; and assistance with water-harvesting schemes, soil conservation, and improvements in pastureland. In some cases, beneficiaries were provided with subsidized credit to purchase “packages,” combinations of agricultural inputs sometimes based on a business plan developed with support from the extension service. In 2009 the OFSP was redesigned and renamed the Household Assets Building Program (HABP), with an emphasis on increased contact and coordination with agricultural extension services.

As discussed by Gilligan, Hoddinott, and Taffesse (2009) and Berhane et al. (2012), the PSNP—where implemented according to program design—has increased food security. Participants who have received public works employment for five years have increased their food security by just over one month and their livestock holdings by 0.4 tropical livestock units (TLUs). There are synergies between the PSNP and the OFSP/HABP. Having both the PSNP and the OFSP/HABP increased food security by 1.53 months and livestock holdings by 1.001 TLUs. Although these are important impacts, they do not tell us whether the households that obtained these benefits were the intended beneficiaries. Were they poor, food-insecure households? Or did elite capture mean that benefits went to the better off? To answer these questions, we examine targeting of the PSNP in two ways: (1) through an assessment of whether it was targeted as designed and (2) how well it compares to other programs internationally.

Data: The 2006 and 2008 Ethiopian Food Security Surveys

This analysis is based on longitudinal quantitative survey data collected at the household and locality levels in the four major regions covered by the PSNP: Tigray, Amhara, Oromiya, and the Southern Nations, Nationalities, and People’s Region (SNNPR). The first survey was implemented in June–August 2006. The follow-up survey was implemented in June and early July 2008. Differences between rounds due to seasonality considerations are not large.

The design of the 2006 Ethiopian Food Security Survey (EFSS) sample was based on power calculations conducted to determine the minimum number of sample enumeration areas and households needed to identify program impacts.¹ The sample is clustered at the *woreda* level, the administrative unit at which program participation is assigned. *Woredas* were randomly sampled proportional to size from a list of 153 chronically food-insecure *woredas* stratified by region; 19 *woredas* were sampled in Oromiya and the SNNPR, 18 in Amhara, and 12 in Tigray. In each *woreda*, sample *kebeles* serving as enumeration areas were randomly selected from a list of *kebeles* with active PSNPs. The

1. Gilligan et al. (2007) provide a complete description of the baseline sample and the survey instruments.

sample had two *kebeles* or enumeration areas (EAs) per *woreda* in Amhara, Oromiya, and the SNNPR and three EAs per *woreda* in Tigray. In each EA, 15 beneficiary and 10 nonbeneficiary households were sampled from separate lists for each group, yielding a sample of 25 households per EA. This yielded a sample of 146 EAs, and, because a few sampled households were not interviewed, a sample of 3,688 households.

The households surveyed in 2006 were reinterviewed in EFSS 2008; attrition was relatively small. A total of 137 households (or 3.7 percent of the baseline sample) dropped out, a third of which were concentrated in two EAs that could not be resurveyed. As part of the initial data cleaning we investigated the quality of the tracing and reinterviewing of households by comparing demographic, land, and housing quality variables across rounds. We identified 78 households that appeared not to match the households interviewed in 2006, and these were also dropped from the sample. Overall attrition, therefore, was 6 percent.²

Evaluating the Targeting Performance of the PSNP

The PSNP uses a mix of geographic and community-based targeting to identify chronically food-insecure households in chronically food-insecure *woredas*. The figures on historic receipt of food aid were used to determine the number of eligible beneficiaries in each region and *woreda*. *Woreda* administrators then selected the chronically food-insecure *kebele*, assigning the *woreda*'s "PSNP quota" to these areas. In each program *kebele*, community-based targeting is used to identify eligible households, which are then assigned to public works or direct support depending on the available labor (FDRE 2006). In 2008, the program operated in the 290 most food-insecure *woredas* in rural Ethiopia.

This approach built on the experience of distributing food aid to rural areas. Food aid targeting in Ethiopia has a long history of relying on community-based targeting systems that have been seen as effective. The PSNP adopted this system while further refining the targeting criteria to capture chronic food insecurity, defined as a food gap of three months or more and receipt of food aid for three consecutive years. Additionally, the program focused geographically on those regions and *woredas* that had received food aid for the preceding three years or longer as a proxy for chronic food insecurity (FDRE 2006; World Bank 2009). Constructing the targeting system in this way enabled the program to harness existing implementation capacity in an environment with severe capacity constraints. It also pragmatically drew on existing data sources to measure the extent of chronic food insecurity, given that there was no experience with household-level means testing or national data with which to objectively identify eligible households (Wiseman, Van Domolen, and Coll-Black 2010).

2. Gilligan, Hoddinott, and Taffesse (2009) provide further details.

Given the objective of alleviating chronic food insecurity, household-level targeting for the PSNP initially focused on selecting households that had been persistent recipients of emergency food aid. However, communities were given substantial discretion to modify this approach and to update their lists of food-insecure households annually based on local criteria. This allowed for a flexible community-based targeting strategy that takes advantage of local knowledge of households' circumstances to identify the neediest households. A risk of this approach is that it allows room for some local interest groups to exert undue influence on the targeting process.

As set out in the Program Implementation Manual (PIM), four bodies take part in the process of selecting household beneficiaries, with responsibilities at different points in the formation of targeting criteria and the selection of beneficiaries. These are the Woreda Food Security Task Force (WFSTF), the Kebele Council, the Kebele Food Security Task Force (KFSTF), and the Community Food Security Task Force (CFSTF). The WFSTF is responsible for adapting the national guidelines on criteria for beneficiary selection to make them relevant to the *woreda* and for training the KFSTF. The KFSTF is responsible for establishing a CFSTF in each village and familiarizing it with the approach to beneficiary selection. The Kebele Council is primarily responsible for hearing and resolving complaints. The CFSTF is responsible for screening households for program eligibility and for developing the lists of beneficiaries.

The PIM states that beneficiary households should consist of members of the community who are chronically food insecure, that is, households that have faced continual food shortages (usually a food gap of three months or more) in the past three years. Also included are households who suddenly became more food insecure as a result of a severe loss of assets and are unable to support themselves, as well as any household without family support or other means of social protection and support.

Having made the initial selection based on the basic criteria, the CFSTF was to examine the following characteristics so as to verify and refine the selection of eligible households: household assets (landholdings, quality of land, food stocks on hand, and so on), income from nonagricultural activities and from alternative sources of employment, and support or remittances from relatives or other community members. Within these guidelines, the WFSTF and KFSTF were responsible for refining the criteria to be used for selection of beneficiary households. Starting with a list of past food aid beneficiaries, the CFSTF would then update the beneficiary list based on the refined beneficiary selection criteria. For this the CFSTF would estimate the current annual number of months of unmet food needs (the food gap) for each household, taking into account family size and composition and expected household food production. This process would be repeated annually to respond to changes in household food security status.

After being determined eligible for the PSNP based on these criteria, households are assigned to public works or direct support: eligible households

with able-bodied adults receive transfers for their participation in public works projects, while households that cannot provide labor or other means of support receive unconditional transfers. Most beneficiary households participate in public works; a much smaller proportion receives direct support.

Community Criteria for Selecting Beneficiary Households

In the 2006 community survey, local officials with knowledge of the operation of the PSNP were asked to report the selection criteria used in their localities to select beneficiaries for public works employment and direct support payments. Respondents were asked to list up to five eligibility criteria, in order of priority; in Table 10.1 we tabulate the results. We found an emphasis on using poverty as a leading eligibility criterion. Nearly 78 percent of communities listed poverty among their top five eligibility criteria for public works. Poverty was the highest-priority selection criterion in 53 percent of communities in the sample. If households with small land and livestock holdings and those targeted as “healthy but poor” are also included in the poverty category, 54 percent of all eligibility criteria reported have a poverty focus.

Household food insecurity was rarely reported as an explicit targeting criterion for public works. Only 9 percent of communities ranked food insecurity as the highest priority, and fewer than 20 percent included food insecurity

TABLE 10.1 Targeting criteria for public works, by priority, 2006 (percentage of communities reporting criteria used)

Targeting criterion	Priority					Total	Share
	1	2	3	4	5		
Food insecure	11	6	2	3	3	25	5.8
Poor	69	19	6	3	3	100	23.0
Those with small land or livestock holdings	14	38	36	13	6	107	24.7
Old people	4	7	10	2	3	26	6.0
Disabled	2	5	3	7	0	17	3.9
Women	0	2	0	0	1	3	0.7
Many children < 10 years	0	0	1	0	1	2	0.5
Those with no spouse	0	0	1	4	1	6	1.4
Healthy people who are poor	11	12	3	0	2	28	6.5
Large household size	3	6	9	5	1	24	5.5
Those involved in resettlement	0	1	1	1	0	3	0.7
Orphans	0	1	1	3	1	6	1.4
Those affected by drought	1	1	1	3	1	7	1.6
Other than above	14	17	26	15	8	80	18.4
Total	129	115	100	59	31	434	100.0

SOURCE: Ethiopia Food Security Survey, 2006 (Community Survey).

as a targeting criterion for public works. This may reflect the relative difficulty of ascertaining degrees of household food insecurity. If poverty and food insecurity are highly correlated, the emphasis on poverty in the selection criteria may adequately capture food insecurity as well.

A list of other characteristics generally received low priority and varied considerably by community. Households with more elderly, disabled, female, or orphaned members or those that were resettled or affected by drought received priority in some communities, but none of these categories represented more than 7 percent of the top five rankings in all communities.

The approach to targeting for direct support differed, with priority given to households with limited labor endowments. Table 10.2 shows the number of communities ranking each selection criterion by priority. Households with elderly or disabled members as household heads or primary income earners received the highest priority in 119 out of 136 communities (88 percent) reporting. Among the five possible criteria listed by these communities, elderly and disabled status accounted for 57 percent of the priorities awarded, and there was little regional variation in this. If we add households in the orphan category, which would, on average, also have relatively low labor endowments, one of these groups was given nearly 70 percent of the top five targeting priorities. A

TABLE 10.2 Targeting criteria for direct support, by priority, 2006 (percentage of communities reporting criteria used)

Targeting criterion	Priority					Total	Share
	1	2	3	4	5		
Old people who have no help	77	38	14	2	1	132	29.3
Disabled who do not work	42	56	20	5	2	125	27.7
Orphans	4	10	23	16	3	56	12.4
Poor	8	17	14	5	3	47	10.4
Pregnant	0	3	8	5	1	17	3.8
Sick	1	5	12	7	4	29	6.4
Widows who have no help	0	1	4	1	1	7	1.6
Breast-feeding women	0	0	0	2	0	2	0.4
Resettled people	1	0	1	2	0	4	0.9
HIV-affected people	1	0	1	1	0	3	0.7
Many children < 10 years	0	0	4	0	1	5	1.1
Female sex workers	0	0	1	0	0	1	0.2
Those affected by drought	0	1	1	1	1	4	0.9
Women	0	0	1	3	0	4	0.9
People residing in the <i>kebele</i>	0	0	1	0	1	2	0.4
Others	2	3	4	2	2	13	2.9
Total	136	134	109	52	20	451	100.0

SOURCE: Ethiopia Food Security Survey, 2006 (Community Survey).

poverty criterion, on the other hand, was unevenly applied. Although 35 percent of communities claimed to use poverty as a targeting criterion for direct support, at the regional level this ranged from 58 percent (Amhara) to 14 percent (the SNNPR).

Households' Understanding of the Targeting Criteria

Tables 10.3 and 10.4 provide descriptive statistics on households' understanding of how the public works and direct support components of the PSNP were targeted. Respondents were allowed to list as many criteria as they knew, so the percentages reported in each row correspond to the percentage of respondents giving that particular criterion as a response. Responses can be loosely categorized into four categories: poverty (people who are seen to be poor, have small or no landholdings, or have few or no cattle or oxen), demographics (household composition, age, or disability), connections (religious or ethnic groups, family or friends of project staff, or village leadership), and other (chosen randomly, by quota, or as a result of a drought shock).

TABLE 10.3 Criteria used to select public works participants, by region and year, 2006 and 2008 (percent)

Criterion used as reported by households	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
Poverty status								
People who are seen to be poor	42.4	62.1	55.7	75.9	45.3	67.3	68.0	72.4
People with small or no landholdings	32.7	44.5	33.4	55.1	42.0	40.6	44.4	54.5
People with few or no cattle or oxen	9.6	22.1	10.6	30.2	20.4	15.4	18.0	25.3
Demographics								
Household composition	14.3	27.2	15.1	18.3	9.7	9.4	12.2	11.4
Old or disabled people	8.4	5.9	9.1	11.0	12.3	21.9	18.8	24.2
Connections								
Religious or ethnic groups	0.3	1.3	0.4	0.6	0.5	0.3	1.2	2.6
Family friends of project staff or village leadership	3.2	3.0	5.0	2.8	8.4	14.3	4.5	2.1
Other								
Random	2.3	1.5	1.8	3.0	2.7	2.5	1.2	8.0
Quota for each <i>kebele</i>	11.7	17.5	11.3	7.3	10.6	5.4	2.5	10.8
People badly affected by drought	14.1	19.1	14.7	22.0	28.2	13.7	16.6	26.3

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: SNNPR = Southern Nations, Nationalities, and People's Region.

TABLE 10.4 Criteria used to select direct support beneficiaries, by region and year, 2006 and 2008 (percent)

Criterion used, as reported by household	Tigray		Amhara		Oromiya		SNNPR	
	2006	2008	2006	2008	2006	2008	2006	2008
Demographics								
Household composition	1.7	7.4	2.9	6.3	2.3	5.1	8.7	11.3
Old people	70.8	84.0	64.3	73.5	65.7	69.5	65.5	67.7
Disabled	55.9	75.1	54.6	72.6	59.5	59.1	69.4	74.0
Connections								
Religious or ethnic groups	0.1	0.0	0.0	0.0	0.2	0.5	0.3	2.3
Family friends of project staff or village leadership	1.5	1.0	1.9	1.6	3.0	8.5	1.1	0.9
Other								
Random	0.3	4.2	1.7	0.9	2.0	1.2	0.4	5.7
Quota for each <i>kebele</i>	4.9	7.3	1.2	0.5	3.1	1.4	0.3	6.6
Poor people or those badly affected by drought	28.3	31.9	19.3	40.9	28.2	32.2	23.5	43.0

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: SNNPR = Southern Nations, Nationalities, and People’s Region.

Table 10.3 indicates that the proportion of households identifying poverty-related characteristics as a reason why households were selected for public works rose markedly in Tigray, Amhara, and Oromiya and, to a lesser extent, in the SNNPR, where the initial level of awareness of poverty-related criteria had been higher. In 2008, people being seen to be poor was listed as a criterion by 62 percent of respondents in Tigray, 76 percent in Amhara, 67 percent in Oromiya, and 72 percent in the SNNPR. Over time, in Tigray, Amhara, and the SNNPR, respondents were also able to list more specific criteria, such as small landholdings or lack of livestock as criteria.

The results for demographic criteria changed less dramatically, though surprisingly—and a little disconcertingly—in that there was an increase in the percentage of respondents who identified being old or disabled as an eligibility criterion for public works in Oromiya and the SNNPR. More reassuringly, households did not generally perceive that religious affiliation, ethnicity, or personal connections affected the likelihood of selection for public works; the one exception was in Oromiya, where approximately 14 percent of respondents stated that family or friendship connections were used as inclusion criteria. Finally, although there were relatively few cases in which selection was perceived to be random, the perception that there was a quota system was found in all regions, especially in Tigray. Being affected by drought was also seen as a common criterion for selection.

Table 10.4 lists selected responses to questions about perceptions about selection for direct support payments. In Tigray, Amhara, and the SNNPR, it was well understood that the elderly and disabled were the intended recipients of direct support. In Oromiya, most responses reported these characteristics, but the increase in the percentage of households reporting these criteria was smaller than in other regions. Oromiya was the only region where a nonnegligible percentage of respondents indicated that connections played a role in the selection of direct support beneficiaries.

Selection into Public Works Employment

Table 10.5 provides descriptive statistics on the consistency of public works participation. A participant household was one in which at least one household member undertook public works employment under the PSNP in the first five months of 2006, 2007, or 2008. Outside the SNNPR, fewer than half of participating households received employment in 2006, 2007, and 2008. In all regions, most particularly in Oromiya, a considerable fraction of 2006 beneficiaries did not receive employment in 2007 or 2008. In Tigray, there is some evidence of employment sharing across years, with nearly 10 percent of 2006 participating households not receiving work in 2007 but employed in 2008. In Amhara, nearly 20 percent of households were dropped after 2006, and only 62 percent received transfers in both 2007 and 2008.

Examining the characteristics of these different groups can tell us something about how the targeting of public works changed, or did not change, over time. Three broad sets of characteristics observed at baseline remain the focus: demographics, wealth, and proxies for household connections. Of greatest interest is a comparison of the four categories of public works participants: households that never received employment (that is, households not reporting

TABLE 10.5 Regional participation of households in the public works component of the PSNP, 2006–08 (percent)

Region	Number of households	2006, 2007, and 2008	2007 and 2008	2006 and 2007	2006 and 2008	2006 only	2007 only	2008 only
Tigray	522	40.42	25.48	2.11	9.77	14.75	2.30	5.17
Amhara	429	34.73	27.27	6.99	5.13	17.95	5.13	2.80
Oromiya	457	45.51	13.35	5.91	4.81	24.29	3.72	2.41
SNNPR	441	68.48	11.56	2.27	0.45	16.78	0.45	0.00
Total	1,849	47.05	19.58	4.22	5.25	18.33	2.87	2.70

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Survey).

NOTES: Sample restricted to households receiving payments for public works in the first five months of at least one year: 2006, 2007, or 2008. PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

employment in the first five months of 2006, 2007, and 2008); those reporting employment in all three years; households that were employed in 2006 but not afterward (that is, households dropped from the program); and households that, although not reporting having worked in 2006, worked in 2007 or 2008 (entrants).

In Tigray, households employed in all three years—relative to those who never received employment—had younger heads of household; were slightly less likely to be headed by females; were larger; had more adult males of working age and fewer men ages 65 and older (in fact, this particular pattern can be seen in all regions); were poorer as measured by median landholdings, median livestock holdings, and holdings of oxen; and were very slightly improved if measured in terms of the head of household's educational attainment. Compared to those that remained in the program for all three years, households dropped after 2006 tended to have slightly older household heads and to be headed by females. Smaller households and those with fewer working-age males had similar landholdings but had more livestock. Those that entered public works were, relative to those that dropped, less likely to be female headed and had larger households with more adult males. Family connections, measured by whether the head of household was born in the locality and by the prominence of the head of household's father in the community, appear to have had no meaningful effect on participation in the public works component of the PSNP in Tigray.

In Amhara participants tended to come from households headed by younger individuals and households that were poorer as measured by livestock or landholdings. Participants in Amhara came from slightly larger households than those that had never received employment and were less likely to be headed by women. The differences in demographic and wealth characteristics between households never employed and those employed in all three years were much less pronounced than in Tigray. Those employed in all three years were less likely to be female headed and held slightly less land. Those dropped tended to have more schooling and larger landholdings but less livestock. By contrast, entrants, relative to those dropped, tended to have less schooling and smaller landholdings but more livestock. However, entrants, relative to those who never received employment, were poorer as measured by human capital, landholdings, or livestock holdings.

In Oromiya, households employed in all three years were, relative to those never employed, much less likely to be female headed and larger in size. There was no consistent difference in wealth measurements between these groups. Households that were dropped after 2006 tended to be poorer and were more likely to be female headed than were those that had employment in all three years. New entrants after 2006 were poorer than households that never received employment. Interestingly, in spite of households' perceptions to the contrary, there is no strong evidence of favoritism based on observable family connections; in fact, households were more likely to be dropped after 2006 if they were born in the locality.

In the SNNPR, households employed in all three years, relative to those that never received employment, had younger heads and were slightly less likely to be headed by females. Other demographic characteristics did not differ markedly across groups. What is striking about the SNNPR, however, is the inclusion after 2006 of very poor households as measured by holdings of livestock.

A limitation of these descriptions is that discerning causal relations is not straightforward. For example, is public works participation really targeted toward younger household heads? Or is employment targeted toward poorer households in Tigray, and do poorer households just happen to have younger heads? To address this issue, we use probit regressions. The dependent variable equals one if the household was employed in PSNP public works, zero otherwise. The independent variables fall into three broad categories: household demographics, wealth, and connections. In addition, a control for household location by region is used. The coefficients presented in Table 10.6 have been transformed into marginal effects; for example, the coefficient -0.002 found in column 1 associated with the age of the head of household means that every additional year of age of the household head reduces the likelihood that the household was paid for public works employment by 0.2 percentage points (0.002×100). Dummy variables, such as whether the household head is female, are interpreted as switching the variable from zero to one. The coefficient -0.065 for female head of household in column 1 means that a female-headed household is 6.5 percentage points less likely to participate in the public works component of the PSNP than an otherwise identical male-headed household. For the full sample results, the calculation of standard errors takes into account the clustered nature of the sample.

The first column of Table 10.6 looks at whether, over the three-year period 2006–08, a sampled household participated in public works employment. Controlling for household location, as household wealth increased—as measured by ownership of oxen, the value of all livestock holdings, and per capita landholdings—the likelihood of participation in public works declined. The magnitude of these effects is meaningful. For example, ownership of two oxen in 2005 reduced the probability of participation by 10.0 percentage points. Compared to a household with no land, a household with landholdings of 1 hectare per person had its probability of participation reduced by 16.9 percentage points. Demographic characteristics—particularly labor availability—also mattered. Each additional adult male and female increased the likelihood of participation by 3 percentage points. However, the likelihood of participation was lower for households with older heads or female heads and for households with high dependency ratios (the number of household members aged 0–14 and 60 or older divided by the number of members aged 15–59). Experiencing a drought shock increased the likelihood of participation; being born in the village of current residence raised the likelihood of being selected for public works employment, although this is not precisely measured.

TABLE 10.6 Correlates of access to public works, 2006–08

Household characteristic	Any payment for public works in 2006, 2007, or 2008 (1)	Any payment for public works, 2006 (2)	Any payment for public works, 2007 (3)	Any payment for public works, 2008 (4)
Age of head of household (years)	-0.002 (1.90)*	-0.001 (1.07)	-0.002 (2.12)**	-0.002 (2.03)**
Household head is female	-0.065 (2.15)**	-0.057 (1.81)*	-0.060 (2.00)**	-0.075 (2.62)***
Males age 65 or older	-0.082 (1.71)*	-0.068 (1.52)	-0.058 (1.20)	-0.071 (1.52)
Females age 65 or older	-0.074 (1.62)	-0.047 (0.98)	-0.061 (1.46)	-0.085 (2.02)**
Dependency ratio	-0.011 (1.87)*	-0.009 (1.67)*	-0.009 (1.39)	-0.013 (1.94)*
Males ages 15–59	0.030 (2.31)**	0.024 (2.02)**	0.028 (1.51)	0.025 (1.40)
Females ages 15–59	0.031 (1.82)*	0.033 (2.09)**	0.021 (1.00)	0.014 (0.65)
Grades completed by household head	-0.001 (0.57)	-0.000 (0.02)	-0.000 (0.18)	-0.001 (0.46)
Oxen owned, 2005	-0.050 (4.12)***	-0.054 (4.02)***	-0.059 (3.97)***	-0.043 (2.82)***
Log value of livestock, 2005	-0.011 (1.89)*	-0.009 (1.71)*	-0.010 (1.67)*	-0.018 (2.96)***

(continued)

TABLE 10.6 Continued

Household characteristic	Any payment for public works in 2006, 2007, or 2008 (1)	Any payment for public works, 2006 (2)	Any payment for public works, 2007 (3)	Any payment for public works, 2008 (4)
Per capita landholdings, 2005	-0.169 (2.28)**	-0.121 (1.57)	-0.146 (1.88)*	-0.130 (1.70)*
Head of household born in this locality	0.045 (1.49)	0.058 (1.89)*	0.044 (1.53)	0.049 (1.68)*
Experienced drought in 2005–07	0.094 (3.31)***			
Experienced drought in 2005		0.052 (1.42)		
Experienced drought in 2006			0.123 (2.21)**	
Experienced drought in 2007				0.112 (4.28)***
Amhara	-0.145 (2.23)**	-0.129 (1.69)*	-0.053 (0.73)	-0.175 (2.44)**
Oromiya	-0.189 (3.15)***	-0.056 (0.93)	-0.127 (1.95)*	-0.217 (3.11)***
SNNPR	-0.273 (4.47)***	-0.082 (1.36)	-0.141 (2.12)**	-0.251 (3.74)***
Observations	3,260	3,260	3,061	3,000

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Coefficients are expressed in terms of their marginal effects. Robust (clustered) z-statistics are in parentheses. Characteristics as observed in 2006 unless otherwise noted. Blank cell indicates variable excluded from specification. SNNPR = Southern Nations, Nationalities, and People's Region. * significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

Columns 2, 3, and 4 allow us to look at the determinants of participation by year. The striking feature here is the stability of the coefficients over time. This suggests that for the sample as a whole, the use of these characteristics as means of targeting households does not change meaningfully over time.

Note that many of these magnitudes are meaningfully large. Consider two households. Household A has two adult males and two adult females and owns no oxen; Household B has one adult male and one adult female and owns two oxen. In all other respects, they are identical. The results reported in Table 10.6, column 1, indicate that the probability of Household A’s participation in PSNP public works is about 16 percentage points higher than that of Household B.

Selection into Direct Support

Access to direct support has evolved over time. Table 10.7 presents some basic statistics for those households that received at least one direct support payment in the first five months of 2006, 2007, or 2008. The sample sizes are considerably smaller than those reported in the analogous table for public works. This reflects the considerably lower coverage of direct support in the PSNP. Few households received direct support in all three years, but there appears to have been some effort to expand direct support coverage. This is most clear for Tigray, where the number of direct support households was largest and where 75 percent of these beneficiaries received transfers in both 2007 and 2008. The number of households receiving direct support benefits also rose in Amhara and, to a lesser extent, in the SNNPR, but from a low base. In Oromiya, by contrast, a large fraction of those households receiving direct support obtained these transfers only in 2006.

Table 10.8 provides descriptive characteristics of direct support recipients disaggregated into four categories: households that never received payments,

TABLE 10.7 Household participation in the direct support component of the PSNP, by region, 2006–08 (percent)

Region	Number of households	2006, 2007, and 2008	2007 and 2008	2006 and 2007	2006 and 2008	2006 only	2007 only	2008 only
Tigray	224	35.27	39.73	0.45	2.68	11.61	2.23	8.04
Amhara	125	29.60	52.00	0.00	0.00	8.80	5.60	4.00
Oromiya	181	16.57	20.44	2.76	1.66	47.51	6.63	4.42
SNNPR	124	34.68	24.19	3.23	0.00	37.10	0.00	0.81
Total	654	32.36	33.79	1.53	1.38	25.84	3.67	4.89

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Sample restricted to households receiving direct support payments in the first five months of at least one year, 2006, 2007, or 2008. PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People’s Region.

TABLE 10.8 Household characteristics, by participation in the direct support component of the PSNP and region, 2006–08 (percent)

Household characteristic	Region	Never received direct support	Received direct support every year	Received direct support only in 2006 (dropped)	Received direct support in 2007 or 2008 (entered)
Mean age of household head (years)	Tigray	44.8	63.0	51.0	55.6
	Amhara	46.6	61.0	62.5	56.5
Household head is female (percent)	Oromiya	40.4	65.1	45.0	50.5
	SNNPR	40.6	59.7	45.4	51.6
	Tigray	22.8	59.5	38.5	36.3
	Amhara	22.0	73.0	45.5	55.6
Mean household size	Oromiya	21.0	56.7	25.6	45.0
	SNNPR	15.9	53.5	36.2	44.0
	Tigray	5.2	2.6	5.0	3.8
	Amhara	4.5	2.4	4.5	4.0
	Oromiya	5.2	3.7	5.5	4.4
	SNNPR	5.4	4.1	5.3	4.7
Mean number of males 65 and older	Tigray	0.07	0.27	0.23	0.32
	Amhara	0.12	0.14	0.36	0.20
	Oromiya	0.05	0.23	0.05	0.15
	SNNPR	0.05	0.23	0.19	0.08
Mean number of males ages 15–64	Tigray	1.25	0.41	1.04	0.83
	Amhara	0.47	0.24	0.82	0.14
	Oromiya	1.09	0.50	1.13	0.71
Median landholdings (hectares)	SNNPR	1.24	0.67	1.09	0.93
	Tigray	1.05	0.88	0.78	0.84
	Amhara	1.15	0.63	0.88	0.94
	Oromiya	1.13	0.53	0.93	1.03
	SNNPR	0.56	0.50	0.56	0.50

Grades of schooling completed by household head	Tigray	2.45	1.10	1.00	2.26
	Amhara	3.75	0.73	0.00	2.31
	Oromiya	1.62	0.83	2.45	2.53
	SNNPR	2.52	1.21	1.59	1.44
Median value of livestock holdings, 2006	Tigray	3,370	1,320	2,610	2,437
	Amhara	2,800	914	1,025	900
	Oromiya	2,700	1,400	2,440	1,403
	SNNPR	1,503	1,190	1,208	1,137
Mean number of oxen, 2006	Tigray	1.12	0.49	0.88	0.79
	Amhara	0.92	0.19	0.09	0.53
	Oromiya	0.53	0.20	0.45	0.52
	SNNPR	0.57	0.30	0.43	0.32
Household head was born in this locality	Tigray	89.6	72.2	84.6	81.3
	Amhara	82.7	75.7	90.9	86.7
	Oromiya	76.3	70.0	81.4	57.5
	SNNPR	81.7	51.2	68.1	64.0
Parent of household head held an official position in this village	Tigray	4.2	10.1	7.7	4.4
	Amhara	6.2	0.0	0.0	0.0
	Oromiya	5.6	3.3	2.3	2.5
	SNNPR	10.4	2.3	4.3	8.0
Father of household head was important in social life of village	Tigray	45.8	48.1	38.5	53.8
	Amhara	38.9	24.3	27.3	24.4
	Oromiya	46.4	30.0	43.0	40.0
	SNNPR	58.7	51.2	66.0	52.0

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

those that received payments in all three years, those that received payments in 2006 only, and those that received payments only in 2007 or 2008. The striking feature of these descriptive statistics is how closely they conform to the intention of the direct support component of the PSNP. Households receiving these payments have heads of household that are considerably older, and these households tend to be smaller, with much lower labor endowments. They are poorer when measured by livestock holdings and by landholdings. There is evidence of some retargeting, with larger households and those with more adult male labor dropped and replaced with smaller and, to a certain extent, older households.

Next we report the results of probit regressions, in which the dependent variable equals one if the household received direct support payments and zero otherwise. Table 10.9 examines these for the full sample across all years and for each year individually. Correlates of access at the regional level for 2006 and 2008 are available on request.

Table 10.9 shows that demographic characteristics dominated the likelihood that a household received direct support. Households with older heads, older men, and fewer younger men were more likely to receive these payments. A female-headed household was also more likely to be a direct support recipient. Characteristics related to poverty played a much smaller role in determining selection, suggesting that infirmity (as proxied by age) and absence of labor power were the factors driving selection. Unlike in the case of public works, households reporting a drought shock were only marginally more likely to receive direct support. Also by contrast, there appear to have been fewer differences across regions, with two notable exceptions: female-headed households in Oromiya were less likely to receive direct support, and households experiencing a drought shock in Tigray were more likely to receive these payments.

The magnitudes of these effects are meaningfully large. As in our discussion of public works, consider two households. Household A has a female head aged 70; household B has a male head aged 40. In all other respects, they are identical. The results reported in Table 10.9, column 1, indicate that the probability of receipt of direct support by household A was 22.9 percentage points higher than that for household B. Assuming that advanced age is correlated in these settings with reduced work capacity, these results, together with the descriptive statistics presented earlier, indicate that the targeting principles laid out in the PIM for direct support were being followed.

The Targeting of the PSNP from an International Perspective

Method

Although our analysis tells us that the criteria used on the ground correspond to those found in the PIM, it does not tell us how well, by international standards, the PSNP is targeted when the community-based targeting is combined

with the geographic focus on chronically food-insecure *woredas* identified by historic receipt of food aid. Such comparisons are, by their very nature, tricky to undertake. Studies of targeting effectiveness in other countries have used different definitions and methods (to say nothing of means of presenting these) in a way that makes comparison difficult. Faced with this issue, Coady, Grosh, and Hoddinott (2004) focused on the incidence and proportion of total transfers received by individuals or households falling within the bottom 40, 20, or 10 percent of national income distribution. Specifically, they developed a measure based on a comparison of actual performance to a common reference outcome, the outcome that would result from neutral (as opposed to progressive or regressive) targeting. Their indicator is constructed by dividing the actual outcome by the appropriate neutral outcome. For example, if the bottom 40 percent of the income distribution receives 60 percent of the benefits, the indicator of performance is calculated as $(60/40) = 1.5$; a higher value is associated with superior targeting performance. A value greater than one indicates progressive targeting; a value of less than one reflects regressive targeting, with unity denoting neutral targeting.

To construct this measure, households receiving PSNP benefits should be placed in a nationally representative distribution of households as ranked by a welfare measure. To explain how this is done, it is helpful to begin by explaining the data sources available to us.

The most recent nationally representative surveys are the Household Income, Consumption, and Expenditure Survey (HICES) and the Welfare Monitoring Survey (WMS). The HICES collected data on the level, distribution, and pattern of household income, consumption, and expenditure. The most recent HICES to which we have access was collected over two rounds: from July 4, 2004, until August 3, 2004, and between February 4, 2005, and March 5, 2005. However, the HICES has limited information on household characteristics such as demographic details and assets, and the consumption and income aggregates collected in the EFSS are not directly comparable to those collected in the HICES.

The WMS is conducted mainly for the purpose of assessing nonincome dimensions of poverty such as education, health, and vulnerability. It provides extensive information on different dimensions of poverty and deprivation such as access to education and health facilities, achievements in education, anthropometric measures, and assets. WMSs are completed in a single interview; these surveys do not collect data on income or consumption. The most recent WMS was completed in late 2004.

Although these disparate data sources may appear unpromising, there are two additional features of the data collected that are worth noting. First, those conducting the 2004/05 HICES interviewed a subset of households sampled by the WMS—19,000 households appear in both—and it is possible to apply population weights to these so that the merged (HICES and WMS) data are nation-

TABLE 10.9 Household characteristics correlated with receipt of direct support, by year, 2006–08

Household characteristic	Any direct support payments (1)	Direct support payments, 2006 (2)	Direct support payments, 2007 (3)	Direct support payments, 2008 (4)
Age of household head	0.003 (6.06)***	0.002 (3.28)***	0.003 (6.12)***	0.003 (5.48)***
Household head is female	0.109 (7.00)***	0.064 (4.34)***	0.100 (6.72)***	0.088 (6.26)***
Males age 65 or older	0.058 (2.52)**	0.070 (2.78)***	0.050 (2.21)**	0.060 (2.72)***
Females age 65 or older	0.022 (1.19)	0.099 (5.14)***	0.010 (0.63)	0.024 (1.44)
Dependency ratio	0.001 (0.35)	0.006 (2.05)**	-0.000 (0.00)	0.003 (1.04)
Males ages 15–59	-0.030 (3.66)***	-0.016 (2.20)**	-0.027 (3.63)***	-0.027 (3.42)***
Females ages 15–59	-0.013 (1.39)	0.006 (0.83)	-0.013 (1.40)	-0.011 (1.35)
Grades completed by household head	0.001 (1.33)	-0.002 (1.18)	0.001 (1.37)	0.001 (1.03)
Oxen owned, 2005	-0.010 (1.34)	-0.027 (3.61)***	-0.011 (1.48)	-0.010 (1.27)
Log value of livestock, 2005	-0.006 (2.43)**	-0.000 (0.17)	-0.005 (2.39)**	-0.005 (2.02)**

Per capita landholdings	-0.005 (0.21)	0.010 (0.44)	-0.006 (0.30)	0.005 (0.21)
Household head born in this PA	-0.034 (2.12)**	-0.002 (0.12)	-0.007 (0.50)	-0.026 (1.79)*
Experienced drought in 2005-07	0.037 (2.81)***			
Experienced drought in 2005		0.026 (1.60)		
Experienced drought in 2006			0.039 (1.99)**	
Experienced drought in 2007				0.026 (1.70)*
Amhara	-0.070 (2.66)***	-0.056 (2.15)**	-0.054 (1.93)*	-0.067 (2.77)***
Oromiya	-0.068 (3.77)***	0.026 (0.71)	-0.056 (3.00)***	-0.068 (3.80)***
SNNPR	-0.086 (6.01)***	-0.002 (0.05)	-0.058 (3.53)***	-0.073 (5.06)***
Observations	2,994	3,190	2,994	2,933

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Coefficients are expressed in terms of their marginal effects. Robust (clustered) z-statistics are in parentheses. Characteristics as observed in 2006 unless otherwise noted. Blank cell indicates variable excluded from specification. PA = peasant association; SNNPR = Southern Nations, Nationalities, and People's Region. * significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

ally representative. Second, the design of the EFSS questionnaires drew, in part, on the WMS surveys. As a result, there are comparable measures of household demographics and assets in both the merged HICES/WMS and the EFSS. Further, the 2006 EFSS contained retrospective questions on these assets that predated (and therefore were unaffected by) the implementation of the PSNP.

Using the merged HICES/WMS data, we estimate a regression model of the correlates of per capita consumption. The correlates are household characteristics—demographic characteristics, assets, and location—measured in broadly comparable ways and appearing in both the merged HICES/WMS and the EFSS. Table 10.10 reports the results of estimating this regression at the national level and separately for Tigray, Amhara, Oromiya, and the SNNPR. Note that these correlates, broadly speaking, have the correct signs and reasonable magnitudes. Assets are associated with higher levels of consumption; larger households and households with a greater proportion of dependents have lower levels of consumption per capita. Further, these regressions account for more than a third of the variation in the dependent variable, and in some cases (such as the results for the SNNPR) considerably more than this.

Using the parameter estimates from this regression, we predict consumption levels for the HICES/WMS sample, then use these predicted consumption levels to calculate the values for the 10th percentile, 20th percentile, and 40th percentile (and so on). Because we use population weights, the completion of this step means that a nationally representative distribution of consumption is available. Applying the parameter estimates calculated in the regression model to the EFSS data on demographics, assets, and location entails multiplying the parameters by the values for these variables and adding these up for each household: doing this allows us to generate a predicted level of per capita household consumption for households in the EFSS dataset. Finally, we compute what proportion of PSNP beneficiaries have predicted consumption levels below the constructed centiles. We combine this information with the data we have on the value of transfers to construct the Coady–Grosch–Hoddinott measure of targeting. Specifically, we use the values of both in-kind and cash transfers received by beneficiary households both as payments for public works employment and as transfers received under the direct support component of the PSNP. Using transfer data that the EFSS collected for the calendar year 2007 has two advantages: using data for a full 12-month period means our targeting estimates are not confounded by wage arrears that were more severe in some regions than in others, and in 2007 cash and in-kind payments for public works employment were roughly equivalent, so our targeting assessment is not confounded by the fact that some households received cash while others received food.

There are two limitations to this approach. First, its success relies critically on the ability to predict consumption levels. Although the regressions reported earlier account for a reasonable amount of variation in consumption levels, a considerable amount remains unaccounted for, and this will affect our estimates of targeting effectiveness. For example, although the HICES/WMS

dataset indicates whether households have access to land, it is not possible to calculate how much land. Because access to land is an important determinant of income in Ethiopia, this may adversely affect our ability to predict consumption levels. Second, although the coverage of the HICES and WMS was widespread, it was not exhaustive. Specifically, both surveys included only the sedentary population of Ethiopia. Three zones in Afar, six zones in Somali region, and all zones in Gambella region were excluded from the HICES and WMS, as were residents of collectives, the homeless, and foreigners. To the extent that these groups are, on average, poorer than the households surveyed in the HICES, the results reported here will overstate the targeting of the PSNP.

Basic Results

Table 10.11 reports the basic results of calculating the Coady–Grosh–Hoddinott (CGH) indexes for the full EFSS sample and also separately by region and decile. CGH values are calculated separately for public works payments and direct support transfers.

The top left set of cells report the CGH indexes based on all PSNP transfers (that is, for public works and direct support) by deciles for the full sample and by region. Starting with the results for the full sample, the CGH values are 1.69 when assessed for the poorest decile, 1.46 when assessed for the poorest two deciles (that is, the poorest quintile), and 1.26 when assessed for the poorest four deciles (that is, the poorest 40 percent) of households, with these deciles based on households' predicted per capita consumption. In all cases, these values exceed one, implying that the PSNP is progressively targeted. Second, the median global value for the CGH index (that is, the median value for the sample of 78 safety net programs summarized by Coady, Grosh, and Hoddinott [2004]) is 1.25, indicating that the PSNP is better targeted than the average global safety net program, any of the African safety net programs reported by Coady, Grosh, and Hoddinott (2004), all but one of the safety net programs found in the Middle East and North Africa, and 14 of the 22 safety net programs assessed in South and East Asia. However, there is considerable variation in this measure of targeting performance across regions. Targeting is, by international standards, considerably above average in Tigray and Oromiya, slightly below average but still progressive in Amhara, and poor in the SNNPR.

The middle and bottom panels on the lefthand side of Table 10.11 report CGH values separately for the public works and direct support components of the PSNP. Given that public works payments make up nearly 90 percent of all transfers, it is not surprising that the values for public works are close to those for all transfers. It is also not surprising that their regional patterns mirror those for all transfers.

In a comparative international context, the targeting of the public works in Tigray and Oromiya is really quite good—both regions fall into the top 30 percent of programs ranked by Coady, Grosh, and Hoddinott (2004). What is surprising, however, is how poorly—stunningly poorly in some cases—direct

TABLE 10.10 Household characteristics correlated with per capita expenditures in the Household Income, Consumption, and Expenditure Survey, by region, 2004–05

Household characteristic	All (1)	Tigray (2)	Amhara (3)	Oromiya (4)	SNNPR (5)
Female-headed household	-0.034** (-2.541)	-0.051 (-1.481)	-0.068** (-2.111)	0.023 (0.631)	-0.040 (-1.335)
Log household size	-0.558*** (-33.17)	-0.530*** (-10.36)	-0.530*** (-14.46)	-0.546*** (-12.28)	-0.569*** (-14.31)
Single-person household	0.098*** (3.007)	0.308** (2.382)	-0.127 (-0.951)	0.209 (1.637)	0.057 (0.291)
Log age of household head	0.044** (2.319)	0.041 (0.565)	0.092** (2.049)	0.009 (0.204)	0.043 (0.746)
Percentage of household adult females	-0.163*** (-4.207)	-0.129 (-1.134)	-0.169 (-1.486)	-0.232 (-1.562)	0.107 (0.759)
Percentage of household female children	-0.368*** (-7.660)	-0.335* (-1.701)	-0.467*** (-4.034)	-0.308* (-1.906)	-0.249* (-1.728)
Percentage of household male children	-0.511*** (-8.712)	-0.388** (-2.570)	-0.691*** (-4.682)	-0.477** (-2.611)	-0.308 (-1.472)
Percentage of household elderly males	-0.589*** (-5.264)	-0.040 (-0.130)	-0.768*** (-3.582)	-0.026 (-0.0766)	-0.611 (-1.601)
Percentage of household elderly females	-0.488*** (-5.182)	-0.471** (-2.089)	-0.389** (-2.173)	-0.737*** (-2.827)	-0.001 (-0.00394)

Grades completed by household head	0.012*** (5.746)	-0.008 (-0.744)	0.010 (1.366)	-0.002 (-0.369)	0.015*** (2.854)
Has access to land	0.054*** (3.412)	0.087 (1.353)	0.157*** (2.663)	-0.029 (-0.419)	-0.002 (-0.0157)
Owens cattle	0.062*** (4.281)	0.054 (1.620)	0.060*** (2.667)	0.050 (1.279)	-0.016 (-0.410)
Number of oxen owned	0.034*** (5.182)	0.021 (1.047)	0.076*** (6.136)	0.032* (1.779)	0.057*** (3.620)
Durables owned, sum	0.036*** (3.074)	0.050 (1.468)	0.053* (1.794)	0.118*** (3.008)	0.003 (0.0906)
Durables owned, squared sum	0.013*** (5.236)	0.012 (0.926)	0.006 (0.588)	-0.007 (-0.629)	0.019* (1.908)
Can access ETB 100 in 7 days	0.110*** (8.237)	0.030 (0.907)	0.121*** (4.890)	0.051 (0.929)	0.191*** (5.528)
Lives in urban area	0.063*** (2.669)				
<i>R</i> -squared	0.349	0.352	0.347	0.387	0.460

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Standard errors are in parentheses; standard errors are robust to heteroscedasticity. In the regression for all households, regional dummy variables are included. For each region regression, zone dummy variables are included. Durables owned is the sum of the ownership of the following items: beds, watches, radios, televisions, sofas, tables, bicycles, and carts. Blank cell indicates variable excluded from specification. ETB = Ethiopian birr; SNNPR = Southern Nations, Nationalities, and People's Region. * significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

TABLE 10.11 Coady–Grosh–Hoddinott index values by region, consumption decile, and transfer type, 2007

Region	Deciles based on predicted per capita consumption			Deciles based on predicted household consumption		
	Poorest decile	Poorest quintile	Poorest two quintiles	Poorest decile	Poorest quintile	Poorest two quintiles
All PSNP transfers						
All regions	1.69	1.46	1.26	1.49	1.50	1.40
Tigray	2.05	1.68	1.49	1.81	1.79	1.47
Amhara	1.14	1.04	1.10	1.92	1.77	1.70
Oromiya	2.68	2.15	1.66	1.27	1.58	1.58
SNNPR	0.82	0.91	0.77	0.96	0.90	0.97
Public works payments						
All regions	1.86	1.55	1.33	1.26	1.29	1.37
Tigray	2.32	1.87	1.63	1.46	1.40	1.48
Amhara	1.28	1.09	1.13	1.49	1.56	1.59
Oromiya	2.90	2.20	1.69	1.20	1.41	1.51
SNNPR	0.87	0.95	0.80	0.89	0.87	0.96
Direct support transfers						
All regions	0.48	0.87	0.83	3.34	2.72	1.94
Tigray	0.11	0.44	0.57	5.79	4.13	2.32
Amhara	0.45	0.85	0.93	4.09	2.80	2.24
Oromiya	1.04	1.75	1.41	1.81	2.85	2.13
SNNPR	0.38	0.58	0.45	1.50	1.15	1.09

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Deciles based on predicted per capita consumption. PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

support transfers appear to be targeted. Based on the share of transfers going to households predicted to be in the bottom two quintiles based on per capita consumption, the CGH value is 0.83. This implies that the targeting of direct support is regressive; targeting could be improved if it were random.

Before taking these results at face value, however, it is helpful to look at the righthand columns in Table 10.11, where households' percentile ranks are based on total household consumption without any adjustment for household size or composition. Beginning with the results for direct support, a dramatically different picture emerges. Here the CGH values are very high; the 2.72 value when using the results for the rankings at the 20th percentile puts the direct support component of the PSNP among the top five programs globally ranked by Coady, Grosh, and Hoddinott (2004). By contrast, compared to the CGH values with deciles based on per capita consumption, the CGH values for the public works component are lower when based on the poorest decile and

the poorest quintile, though slightly higher when based on the poorest two quintiles of households.

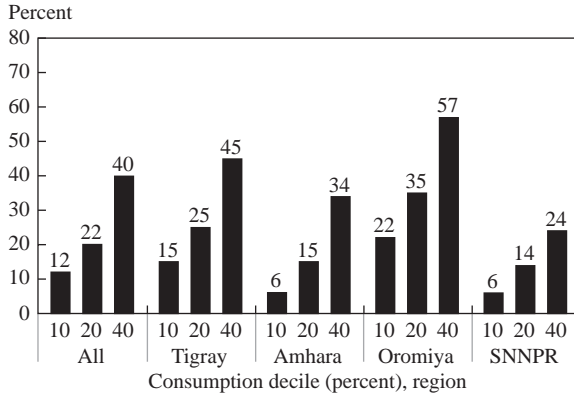
Taken collectively, these results suggest that although the PSNP is reasonably well targeted, the disjuncture between the results based on per capita and total household consumption is puzzling. However, it is helpful to recall three points. First, the PIM (FDRE 2006) makes relatively little reference to expressing poverty and food insecurity in per capita terms. Further, as Gilligan et al. (2009) show, when asked how beneficiaries are chosen, local communities make reference to total household resources as measured in terms of land, live-stock, oxen, and other resources and little, if any, reference to household size. Second, the CGH index captures the combined effects of the selection of households and the level of transfers to each beneficiary household. Third, in the allocation of work, larger households were supposed to receive more days' work than smaller households.

Given all this, it is helpful to disaggregate the CGH in terms of its two component parts; Figures 10.1a–10.1f and Tables 10.12a–10.12c do just that. The figures show the incidence of the PSNP, that is, the proportion of households in each predicted decile that receives PSNP transfers. For this measure, the PSNP is considered progressive if the proportion of households selected exceeds the size of the decile (so, for example, the program is progressive if the proportion of the households receiving PSNP benefits in the poorest quintile exceeds 20 percent). The figures show the incidence of transfers for the PSNP (Figures 10.1a and 10.1b) and, separately, for public works (Figures 10.1c and 10.1d) and direct support (Figures 10.1e and 10.1f). In all three pairs of figures, incidence is shown for rankings based on per capita consumption and total household consumption. Starting with Figures 10.1e and 10.1f, there is a striking difference between the former and the latter. Based on per capita rankings, the targeting of direct support is terrible. But—assuming that in fact local communities do indeed target households without adjusting for size—it is excellent. Across the full sample, just under 80 percent of direct support beneficiaries are predicted to be in the poorest two quintiles, and this figure is even higher in some regions (an astonishing 93 percent in Tigray). In terms of public works, incidence is also enhanced when households are ranked using total household consumption, though the improvement is less marked when compared to direct support.

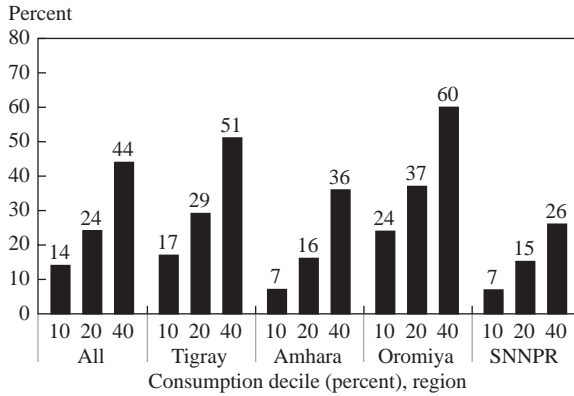
Of course, even if selection of households is uniform across the distribution of per capita consumption, a program can still be progressive if poorer households receive higher transfers relative to other beneficiaries. For example, in the context of the PSNP, poorer or more food-insecure households (or households in more food-insecure *woredas*) might receive more work and therefore higher transfer levels even if it is difficult to select, or exclude, beneficiary households. Tables 10.12a–10.12c provide information on this issue. They show, based on a ranking of households in terms of their predicted total consumption levels, the level of transfers (in both total and per capita terms) relative to average transfers for the region as a whole. So, for example, in Table

FIGURE 10.1 Incidence of PSNP, public works, and direct support transfers, by region and per capita or total consumption decile, 2007

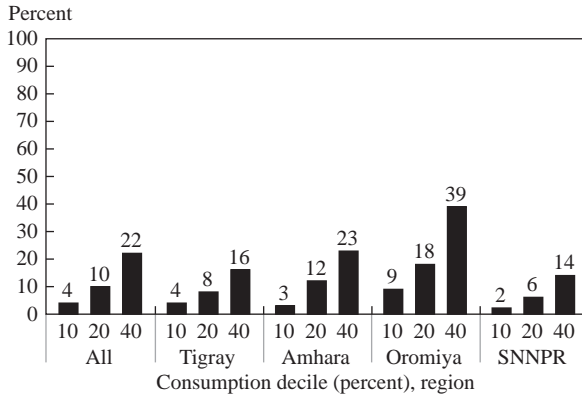
a PSNP transfers, by predicted per capita consumption decile



c Public works transfers, by predicted per capita consumption decile



e Direct support transfers, by predicted per capita consumption decile

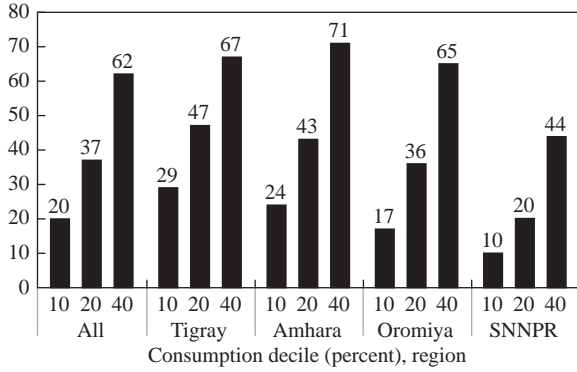


SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

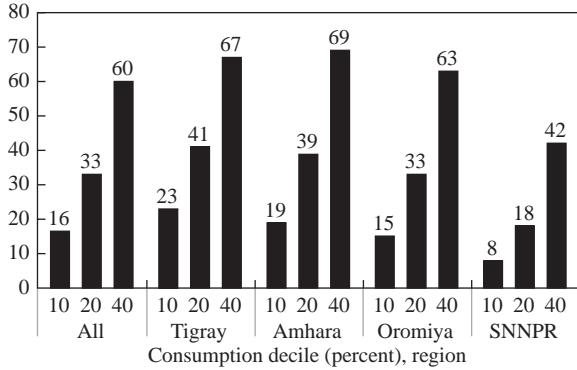
b PSNP transfers, by predicted total consumption decile

Percent



d Public works transfers, by predicted total consumption decile

Percent



f Direct support transfers, by predicted total consumption decile

Percent

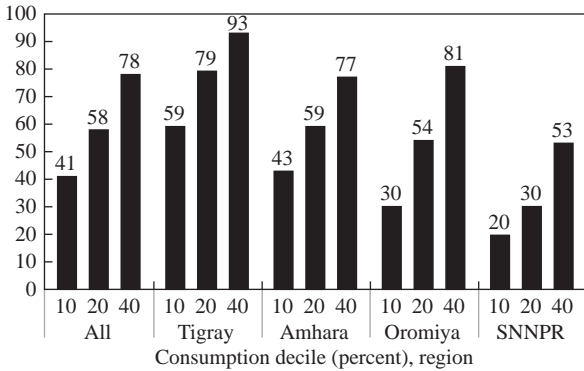


TABLE 10.12a Size of PSNP transfers relative to mean transfers, by region and consumption decile, 2007 (percent)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10	63	126
	20	76	119
	40	87	108
Amhara	10	81	140
	20	82	119
	40	95	111
Oromiya	10	74	141
	20	88	128
	40	96	113
SNNPR	10	93	162
	20	90	137
	40	89	116

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

TABLE 10.12b Size of public works transfers relative to mean transfers, by region and consumption decile, 2007 (percent)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10	65	125
	20	69	120
	40	89	108
Amhara	10	79	132
	20	81	116
	40	92	108
Oromiya	10	81	153
	20	87	128
	40	96	114
SNNPR	10	106	173
	20	95	139
	40	91	116

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: SNNPR = Southern Nations, Nationalities, and People's Region.

TABLE 10.12c Size of direct support transfers relative to mean transfers, by region and consumption decile, 2007 (percent)

Region	Percentile rank in terms of total household consumption	How are transfers measured?	
		Total transfers	Transfers per capita
Tigray	10	98	131
	20	105	118
	40	100	105
Amhara	10	94	143
	20	94	124
	40	117	124
Oromiya	10	61	112
	20	105	130
	40	105	112
SNNPR	10	74	163
	20	77	143
	40	82	122

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTE: SNNPR = Southern Nations, Nationalities, and People’s Region.

10.12a the figure 140 in the row for Amhara at the 10 percentile ranking in the column “Transfers per capita” means the following. We rank households in Amhara by total predicted household consumption. With this ranking we focus attention on households predicted to be in the poorest decile and assess the size of PSNP transfers per capita for beneficiaries in this decile relative to all PSNP beneficiaries in Amhara. The figure 140 tells us that PSNP beneficiaries in the poorest predicted decile in Amhara receive per capita PSNP transfers that are 40 percent higher than those given to the average PSNP beneficiary in that region. The striking feature of Tables 10.12a–10.12c, for both types of transfers and for all regions, is that the reported percentages are all greater than 100 when looking at transfers per capita and almost always below 100 when looking at total transfers. This indicates that, if they are selected into the PSNP, larger households receive greater transfers.

Correlates of Positive Targeting Outcomes at the Locality and the Woreda Levels

The previous material tells us what targeting outcomes are obtained; it does not tell us why targeting is superior in some localities than in others, and it tells us nothing about the process by which these targeting outcomes have been obtained. But the EFSS survey data allow for an examination of which factors are correlated with positive targeting outcomes in these communities.

This is particularly important because the PSNP introduced a number of reforms to promote community participation in the targeting process to improve transparency and accountability. The grievance procedures were separated from the targeting process in 2007 with the establishment of the Kebele Appeal Committees. Beneficiary lists are posted in public locations and debated during public meetings.

Our analysis begins with an exploration of the process indicators associated with targeting: whether households perceived that they were given the opportunity to comment on beneficiary selection, whether they perceived the process as fair, and whether they felt that they were well informed about how the PSNP operates (including the selection of beneficiaries) in their communities. The distribution of these outcomes across localities is reported in Table 10.13. Just under 70 percent of households reported that they were well-informed about how the PSNP worked. Fewer (47 percent) perceived the selection process as fair, and only a third had the opportunity to comment on the

TABLE 10.13 Local-level targeting-related outcomes: Distributions and means, by region, 2008

Region	25th percentile	Median	75th percentile	Mean
Proportion of households reporting that they were allowed to comment on beneficiary selection				
Tigray	0.25	0.40	0.62	0.41
Amhara	0.08	0.33	0.40	0.32
Oromiya	0.04	0.17	0.28	0.20
SNNPR	0.20	0.38	0.51	0.37
All	0.13	0.29	0.48	0.33
Proportion of households perceiving that the selection process was fair				
Tigray	0.39	0.52	0.70	0.51
Amhara	0.32	0.48	0.62	0.49
Oromiya	0.16	0.32	0.47	0.34
SNNPR	0.36	0.51	0.70	0.53
All	0.28	0.48	0.64	0.47
Proportion of households perceiving that they were well informed about how the PSNP works				
Tigray	0.67	0.75	0.85	0.75
Amhara	0.45	0.65	0.87	0.62
Oromiya	0.30	0.58	0.91	0.58
SNNPR	0.76	0.92	1.00	0.82
All	0.50	0.75	0.93	0.69

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Sample sizes: Tigray, 33; Amhara, 28; Oromiya, 34; SNNPR, 36. PSNP = Productive Safety Net Programme; SNNPR = Southern Nations, Nationalities, and People's Region.

selection process. Generally, Tigray and the SNNPR had the strongest process indicators, Oromiya the poorest.

Table 10.14 reports the means and standard deviations of the correlates of these process indicators; regression results are reported in Table 10.15. Several findings are noteworthy. First, households are more likely to be able to comment on beneficiary selection if they live in wealthier localities as measured by landholdings and if the head of household has any formal schooling, but these characteristics have no effect on perceptions of fairness or understanding of the program. Second, higher inequality is associated with higher perceptions of fairness, perhaps because it is easier to differentiate between food-secure and food-insecure households. A positive association is also found with the proportion of households where the head of household was born in the locality; in this

TABLE 10.14 Local-level targeting-related outcomes: Characteristics of correlates, 2008

Variable	Mean	Standard deviation
Mean household characteristics		
Age of head of household (years)	45.3	5.5
Female-headed household	1.24	0.12
Head of household has some schooling	0.23	0.18
Land size (hectares)	1.22	0.80
Inequality		
Land, interquartile range (hectares)	0.87	0.55
Social capital		
Head of household born in the locality	0.80	0.12
Related to task force members	0.19	0.18
Connectedness of locality		
Nearest road is all-weather	0.51	0.50
Locality has phone service	0.57	0.50
Characteristics of Community Food Security Task Force		
Has elderly members	0.88	0.32
Has youth members	0.88	0.33
Number of women	2.23	1.89
Number of development agents	1.87	1.38
Produces reports on activities	0.78	0.41
Perceives a need to hire some skilled labor	0.97	0.17
> 40 percent of current beneficiaries added in last 18 months	0.19	0.39
Updated list of PW beneficiaries since January 2008	0.88	0.33

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Interquartile range equals the difference between the third and first quartiles. In the present case, it is measured as the difference between the third and first quartiles of landholdings in each locality. PW = public works.

TABLE 10.15 Correlates of locality-level targeting-related outcomes, 2008

Characteristic	Respondents perceive that they can comment on beneficiary selection (1)	Respondents perceive that the selection process is fair (2)	Respondents feel well informed about how well the PSNP works (3)
Mean household characteristic			
Age of household head	-0.004 (-0.945)	0.004 (0.878)	0.005 (0.953)
Female-headed household	0.141 (0.550)	-0.085 (-0.485)	0.087 (0.407)
Household head has some schooling	0.345*** (2.499)	0.098 (0.751)	0.018 (0.0981)
Land size (hectares)	0.109*** (2.036)	-0.061 (-1.118)	-0.050 (-0.946)
Inequality			
Land, interquartile range	-0.051 (-0.997)	0.168*** (2.944)	0.087 (1.288)
Social capital			
Household head born in this PA	0.073 (0.473)	0.221** (2.357)	0.028 (0.199)
Related to task force members	0.314*** (2.497)	0.147 (1.230)	0.275*** (2.027)
Connectedness of locality			
Nearest road is all-weather	0.122*** (2.971)	0.099*** (2.300)	0.072 (1.450)

Locality has phone service	0.033 (0.751)	-0.022 (-0.483)	0.157*** (2.683)
Characteristic of Community Food Security Task Force			
Has elderly members	0.121 (1.436)	0.027 (0.443)	0.122 (1.058)
Has youth members	-0.019 (-0.295)	-0.075 (-1.177)	-0.088 (-0.828)
Number of women	-0.024** (-2.010)	0.010 (0.910)	-0.009 (-0.610)
Number of development agents	-0.029** (-2.073)	-0.033** (-2.081)	-0.002 (-0.124)
Produces reports on activities	0.005 (0.105)	0.082* (1.685)	0.086 (1.291)
Updated list of PW beneficiaries since January 2008	0.021 (0.235)	0.134* (1.823)	0.044 (0.511)
> 40 percent of current beneficiaries added in last 18 months	0.101 (1.473)	0.113** (2.428)	0.019 (0.261)
Perceives a need to hire some skilled labor	-0.298** (-2.568)	-0.339*** (-3.967)	-0.121 (-0.861)
<i>R</i> -squared	0.331	0.356	0.281

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Interquartile range equals the difference between the third and first quartiles. In the present case, it is measured as the difference between the third and first quartiles of landholdings in each locality. *t*-statistics are in parentheses. Standard errors are robust to heteroscedasticity. Regional controls included but not reported. Sample size is 122 localities. PA = peasant association; PSNP = Productive Safety Net Programme; PW = public works. * significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

case, the likelihood that households will have had more interactions over time with the members of the CFSTFs may be a factor. Third, the connectedness of the locality—access to all-weather roads or to phone services—is associated with better process indicators.

How the composition and activities of the CFSTF affect these process indicators is also assessed. Proper composition of the CFSTF (presence of the elderly, youth, women, and development agents) has few positive consequences for the CFSTF; however, some characteristics, such as the number of development agents, are associated with poorer process indicators. When CFSTFs are run well—as measured by the existence of reports on their activities and recently updated beneficiary lists—the likelihood that the selection process is perceived to be fair is higher. However, when selection processes are amended so as to favor nonpoor households (for example, when local leaders indicate that it is acceptable to hire some skilled labor to undertake public works tasks), the perception of fairness is lower. Interestingly, when this occurs, there is less likelihood that households can comment on the selection of beneficiaries. Finally, the fact that a number of locality characteristics, including livestock holdings, are not correlated with these process variables means that a household food gap (and the interquartile range of these variables), distance to local towns, access to electricity, sex of respondent, and past receipt of emergency food aid are also noted. Changes in functional form, such as adding quadratic terms or transforming variables into log form, have no appreciable effect either.

What is the relationship between these types of characteristics and targeting performance as measured by the CGH index and the incidence (percentage of households predicted to be in the poorest quintile who receive benefits) of the PSNP?³ In Table 10.16, explorations of these associations at the *woreda* level (the lowest level of disaggregation at which we can construct the CGH index) are highlighted. We focus on the association between the CGH index as measured by the share of public works going to the poorest two quintiles as measured by predicted per capita consumption. We choose this outcome because, ranked at this level, the CGH values are largely unchanged when this outcome is assessed using per capita or total household consumption; as noted in Table 10.11, this is not the case for other measures. Further, public works transfers account for nearly 90 percent of all PSNP transfers.

Given less than 60 *woredas* to work with, the specification must be parsimonious. We start with the variables used in Table 10.14 and add variables that are correlated with the CGH index and the incidence of public works at the *woreda* level but not with the process indicators (the distribution of livestock holdings) and drop those that are not correlated with these targeting outcomes (landholdings and their distribution, along with social capital variables). The

3. We replicated these specifications using the ratios reported in Table 10.12 as the outcome, but the covariates used here had no association with this outcome.

TABLE 10.16 Correlates of targeting performance, public works transfers to the poorest two quintiles as measured by predicted per capita household consumption, 2008

Variables	(1) CGH index	(2) CGH index	(3) Incidence	(4) Incidence
<i>Woreda</i> characteristic				
Female-headed household	-1.733* (1.985)	-1.980** (2.474)	-0.488 (1.427)	-0.574* (1.830)
Livestock, interquartile range	0.141** (2.330)	0.166*** (3.136)	0.058** (2.288)	0.067*** (2.938)
Percentage with electricity	0.308* (1.776)	0.346* (1.799)	0.076 (1.141)	0.089 (1.323)
Characteristic of Community Food Security Task Force				
Has elderly members	0.204 (0.732)	0.186 (0.739)	0.059 (0.589)	0.053 (0.545)
Has youth members	-0.092 (0.310)	-0.121 (0.466)	-0.006 (0.0569)	-0.016 (0.177)
Number of women	0.068 (1.189)	0.033 (0.518)	0.010 (0.523)	-0.002 (0.103)
Number of development agents	0.083* (1.681)	0.087* (1.684)	0.033 (1.632)	0.034 (1.661)
Perceives a need to hire some skilled labor	-1.061** (2.063)	-1.283*** (2.721)	-0.399** (-2.048)	-0.477** (2.668)
Implementation characteristic				
Percentage of beneficiaries added after 2006 (log)	0.100*** (3.375)	0.102*** (3.334)	0.021* (1.781)	0.022* (1.981)
Percentage of beneficiaries dropped after 2006 (log)	0.076* (1.852)	0.063 (1.407)	0.014 (1.069)	0.010 (0.636)
Percentage of households perceiving that they can comment on beneficiary selection		-0.779** (2.327)		-0.272** (2.334)
R-squared	0.533	0.573	0.542	0.578

SOURCE: Ethiopia Food Security Surveys, 2006 and 2008 (Household Surveys).

NOTES: Interquartile range equals the difference between the third and first quartiles. In the present case, it is measured as the difference between the third and first quartiles of landholdings in each locality. *t*-statistics are in parentheses. Standard errors are robust to heteroscedasticity. Regional controls included but not reported. Sample size is 59 *woredas*. Blank cell indicates variable excluded from specification. CGH = Coady-Grosh-Hoddinott. * significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

most interesting results pertain to the composition and activities of the CFSTFs affecting process indicators. Although the presence of the elderly and of women improve targeting performance as measured by the CGH index or the incidence of public works employment, these associations are not statistically significant. A similar impact for the number of development agents on the CFSTFs is noted, even though these agents are perceived to make selection processes less fair. When selection processes are amended to favor nonpoor households (for example, when local leaders indicate that it is acceptable to hire some skilled labor to undertake public works tasks), targeting performance is poorer. Table 10.16 also shows that there is an association between updating the lists of beneficiaries by adding and dropping households and improved targeting performance. Finally, and perhaps surprisingly, an increase in the percentage of respondents who say that they can comment on the selection of beneficiaries is associated with poorer targeting performance. The magnitude of this association is small. A 10 percent increase in the percentage of individuals reporting that they can comment is associated, for example, with a 2.7 percentage point reduction in incidence. However, if the mean percentage of individuals in the *woreda* who perceive that the selection process was fair is used as the dependent variable, the results show that this percentage is higher in *woredas* where more respondents report that they are allowed to comment on the selection process; by contrast, program incidence or the CGH value has no association with this outcome.

Conclusions

The PSNP is targeted toward households that are both food insecure and poor in terms of total household resources. Although there was regional variation in application of the PIM, overall the guidelines were followed. Public works projects targeted poor rather than food-insecure households for participation, but because poverty is highly correlated with food insecurity, food-insecure households were targeted as well. The program targeted direct support toward households with limited labor endowments rather than targeting households based on poverty. Over time, community understanding of the targeting criteria improved across most of the PSNP regions. Households' identification of poverty-related factors as reasons that households were selected for public works improved in most regions, and in most regions it was well understood that the elderly and disabled were the intended recipients of direct support. Family or friendship connections were not reported as major factors in a household's likelihood to receive public works or direct support except in Oromiya, where households identified connections as playing a role in both. There were regional variations in targeting. This is unsurprising, given that the PIM allows for community-based norms to be used in targeting.

From an international perspective, the PSNP is well targeted. Based on the Coady–Grosh–Hoddinott indexes calculated for this sample, targeting is progressive in general. The PSNP also scored better than the median global value

of this index, indicating that the PSNP is better targeted than the average global safety net program. Moreover, the PSNP is better targeted than any of the African safety net programs reported by Coady, Grosh, and Hoddinott (2004). There is little evidence of elite capture throughout the regions where the PSNP is being operated. Differences in how the CFSTFs are run matter for targeting performance. In cases in which selection processes are amended to include nonpoor households, targeting performance is weakened.

These findings suggest that the PSNP has been able to target resources to the poorest households in rural areas using a combination of geographic and community-based targeting. The food aid targeting system was a useful foundation, identifying food-insecure *woredas* and establishing the community-based targeting system. However, the improvement in targeting outcomes since 2006 suggests that program size has important implications in terms of how well communities can target resources to the poorest, as well as the need for continuous capacity building and follow-up from higher-level implementers. Finally, there is some suggestion that the PSNP's aim to deliver a predictable safety net to households while also creating quality public works may undermine the effectiveness of the targeting through, for example, the need to hire skilled labor to deliver on this second objective.

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